

collections at the University of Arkansas (UA), Clemson University (CU) and Purdue University (PU). We wish to thank Dr. John C. Morse (Clemson) and Dr. Arwin V. Provonsha (Purdue) for allowing us to examine specimens in their care.

Records. ARKANSAS: *Clark Co.*, 3 mi. NE Amity, Caddo River, 9 July 1978, 3♂ 1♀; 16 Aug 1978 (UA). *Montgomery Co.*, Little Missouri River at Albert Pike Rec. Area, 30 May 1974, 1♂ (PU); 28 July 1980, 2♂; 19 Sep 1980, 72♂; 20 Sep 1980, 9♂; (CU). *Pike Co.*, Glenwood, Hwy 270 at Caddo River, 27 Jul 1978, 22♂, 4♀ (UA). *Saline Co.*, N. Fork Saline River, 17 Aug 1985, 4♂, 4♀ (UA). MISSOURI: *Pulaski Co.*, Gasconade River, (T36N-R12W-Sec 5), 30 May 1986, 16♂; 26 Jun 1987, 2♂; 28 July 1985, 6♂; 28 Jul 1987, 8♂; 25 Sep 1987, 5♂ (UA).—*Paul K. Lago, Department of Biology, the University of Mississippi, University, Mississippi 38677, and Michael L. Mathis, Department of Zoology, and David E. Bowles, Department of Entomology, University of Arkansas, Fayetteville, Arkansas 72701.*

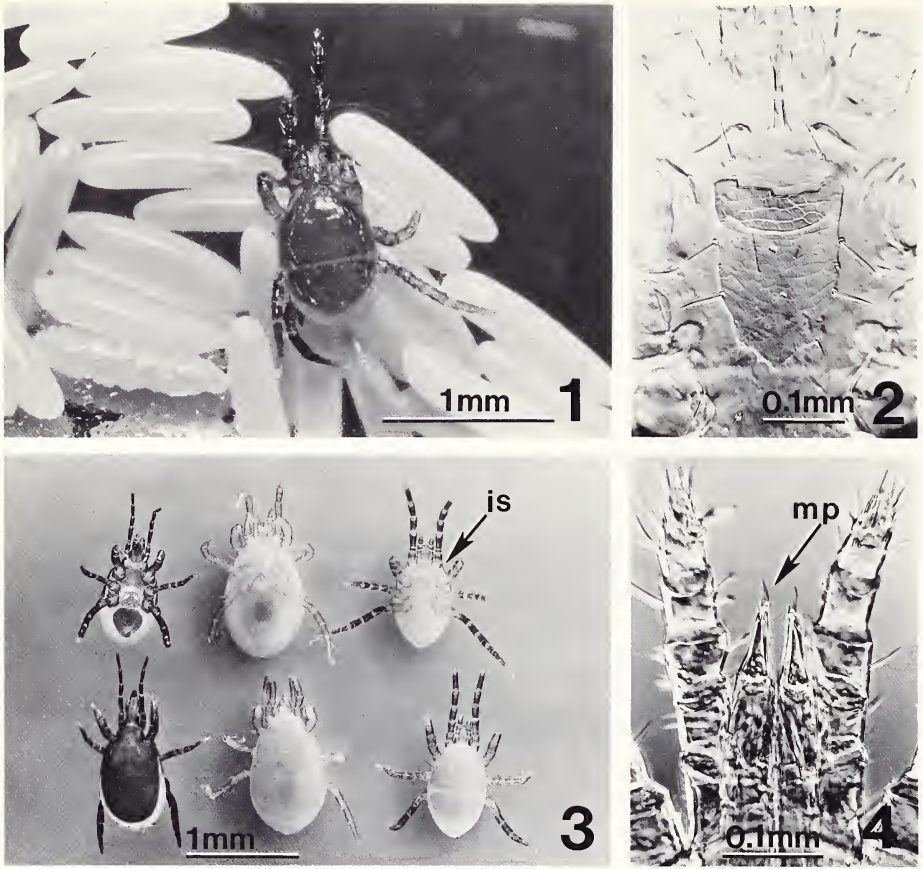
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POECILOCHIRUS MONOSPINOSUS (ACARINA: MESOSTIGMATA: PARASITIDAE), A PREDATOR OF HOUSE FLY IMMATURES: NEW LOCALITY RECORDS

Poecilochirus monospinosus Wise, Hennessey, and Axtell is a recently described species of mite in the family Parasitidae (Wise et al., 1988). The mites live in chicken manure where they prey on saprophytic nematodes, other mites, and immature dipterans (Fig. 1). Both deutonymphs (Fig. 1) and females feed readily on eggs and first instars of the house fly, *Musca domestica* L. (Geden et al.; 1988, Wise et al., 1988). Because of this, and because the mites occasionally are very abundant in newly accumulating poultry manure, *P. monospinosus* may play a role in the regulation of populations of flies associated with poultry production. Wise et al. (1988) described the species from mites collected from poultry manure in North Carolina, and sug-



Figs. 1–4. 1. Live *Poecilochirus monospinosus* deutonymph feeding on house fly eggs. 2. Intercoxal shield of *P. monospinosus* deutonymph. Specimen cleared in lactophenol and mounted in Hoyer's medium. 3. Comparison of alcohol-preserved *Macrocheles muscaedomesticae* and *P. monospinosus*. Clockwise from upper left: *M. muscaedomesticae* female (ventral view), *P. monospinosus* female (ventral), *P. monospinosus* deutonymph (ventral), *P. monospinosus* deutonymph (dorsal), *P. monospinosus* female (dorsal), *M. muscaedomesticae* female (dorsal). Note darkened area on anterior region of intercoxal shield (*is*) of *P. monospinosus* deutonymph. 4. *P. monospinosus* deutonymph, ventral view. Note membranous projection (*mp*) on fixed digit of chelicerae. Specimen cleared in lactophenol and mounted in Hoyer's medium.

gested that the apparently limited distribution of the mites was due to a lack of sampling from other locations. We report here the occurrence of *P. monospinosus* from chicken manure in Massachusetts and New York.

Geden and Stoffolano (1987) reported the occurrence of small numbers of unidentified *Poecilochirus* sp. from chicken manure in wide-span caged layer houses in Massachusetts. We have cleared and slide-mounted 10 deutonymphs, 5 females and 2 males from these collections and confirmed that they are *P. monospinosus*. These

mites were collected sometime between May and June 1980, from the Hill farm in Hubbardston, Massachusetts; we cannot determine the precise date of collection or the age of the accumulated manure owing to the manner in which the alcohol collections were pooled several years after the survey was completed.

More recently, we collected ca. 1,000 cm³ of manure from a high-rise caged layer house in Wolcott, New York (Wegman's farm) on 5 Jan. 1989 that contained large numbers of parasitid deutonymphs, as well as substantial numbers of other fly predators (the mite *Macrocheles muscaedomesticae* [Scopoli] and the histerid *Carcinops pumilio* [Erichson]). The manure in the house had accumulated for approximately 10 months. After extracting the sample through Tullgren funnels into 70% ethanol, we cleared and identified deutonymphs, females, and males of *P. monospinosus*. A total of approximately 150 deutonymphs and 30 females were recovered from the sample. No attempt was made to quantify males or immatures other than the deutonymphs because of the presence of at least one other species of Parasitidae (*Parasitus* sp.) in the sample.

P. monospinosus may be widely distributed throughout northeastern North America, and a clearer picture of the mite's distribution will emerge as other investigators examine the acarine fauna associated with poultry manure. Spot characters that can aid in locating and identifying the mites are: 1) observation of extremely fast-moving mites over and just under the manure surface (deutonymphs); 2) examination of alcohol-preserved deutonymphs for a characteristically darkened band on the intercoxal shield (Figs. 2, 3) (diagnostic for all but one member of the genus); and 3) deutonymphs and females that are somewhat similar in size to female *Macrocheles muscaedomesticae* (Fig. 3). Proper identification requires clearing and examination of slide-mounted material for the characters described by Wise et al. (1988), especially the presence of a single, entire, membranous process on the apex of the fixed digit of the chelicerae of the deutonymphs (Fig. 4).—*Christopher J. Geden, Donald C. Steinkraus, and Donald A. Rutz, Department of Entomology, Comstock Hall, Cornell University, Ithaca, New York 14853-0999.*

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